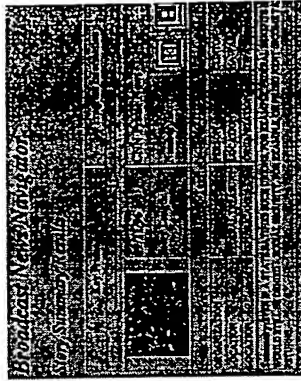


Broadcast News Navigator (BNN)



Web-based
Browse/Search by:

- Time
- Program
- Keyword
- Person
- Location
- Subject

Broadcast News Editor (BNE)

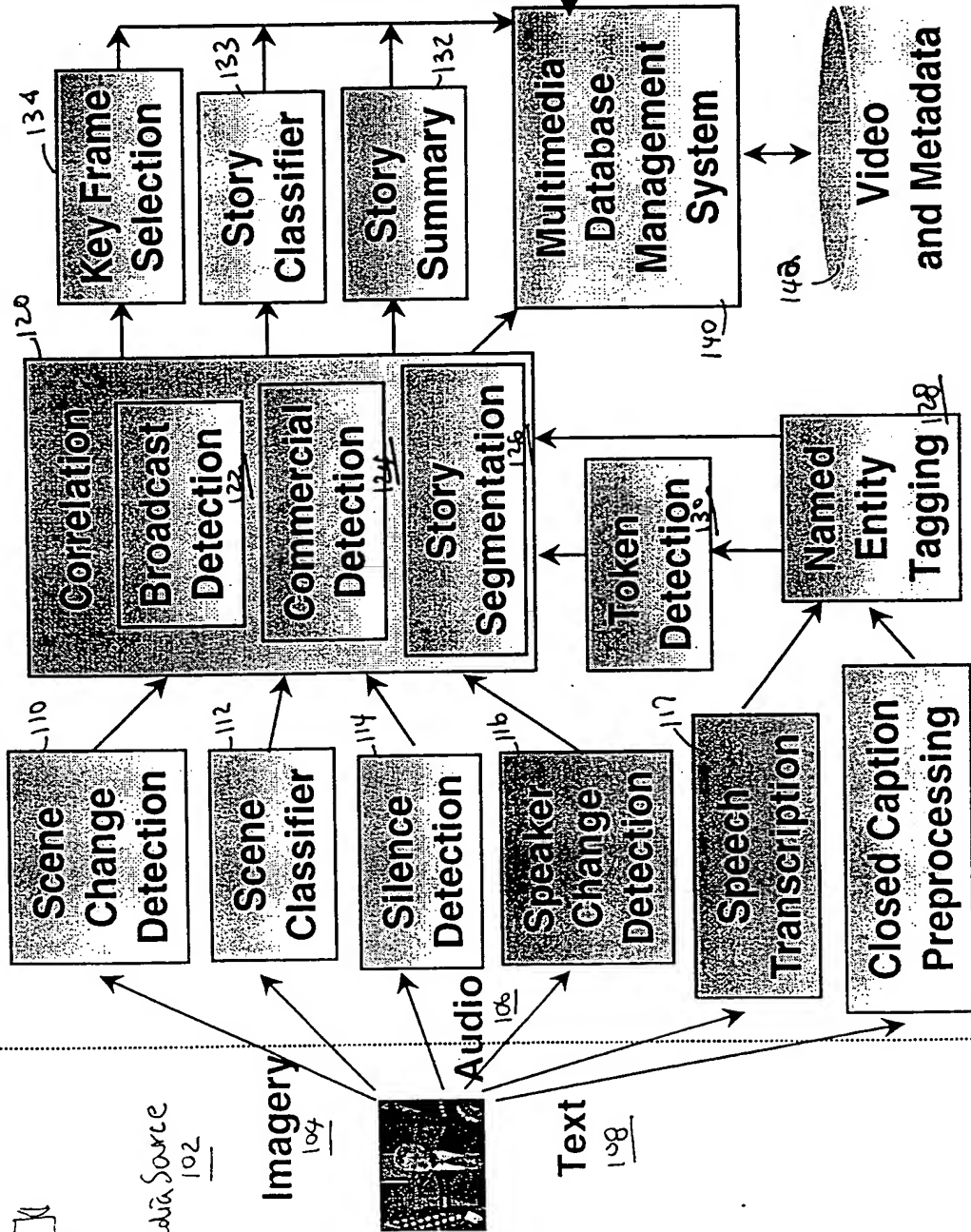
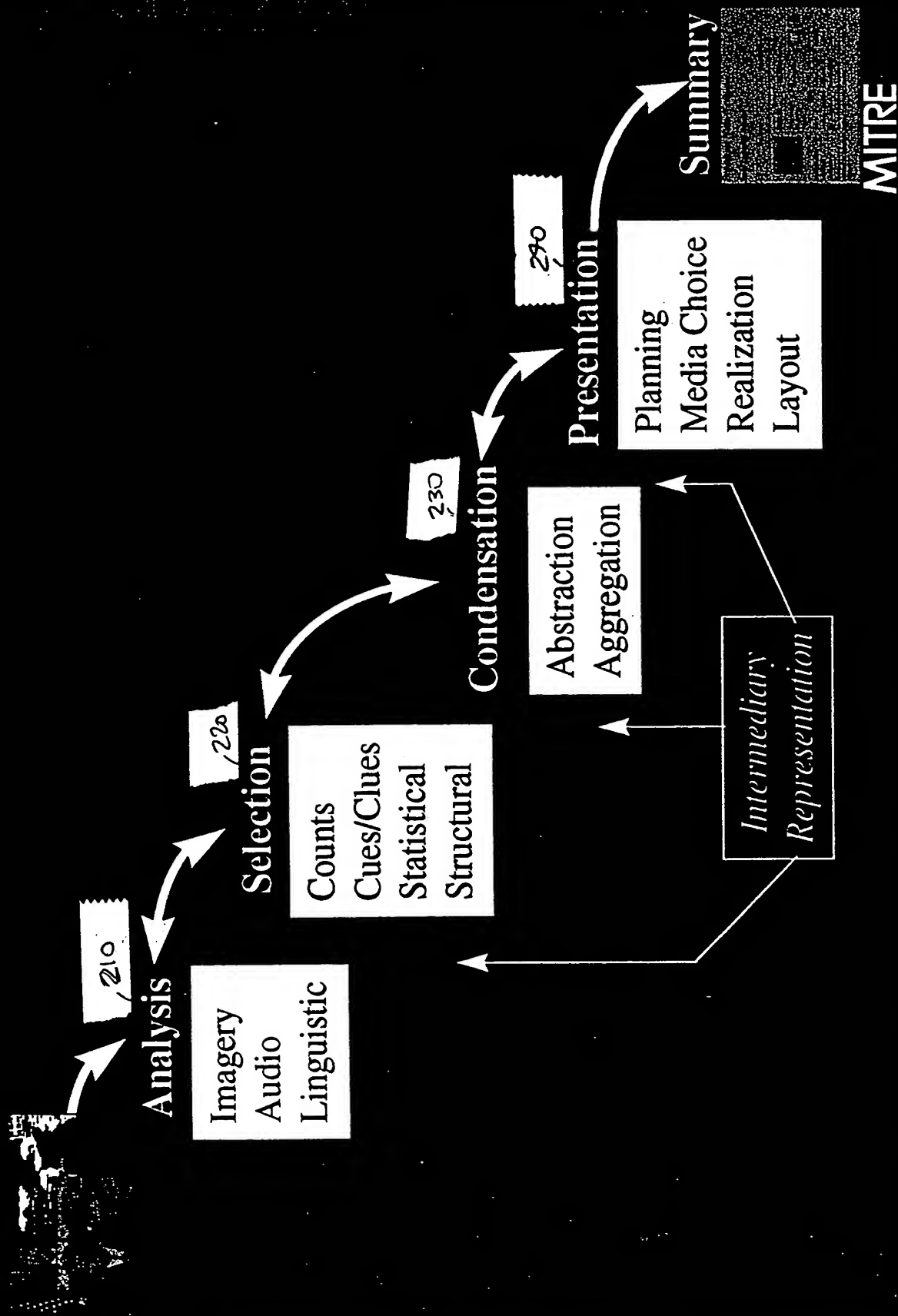
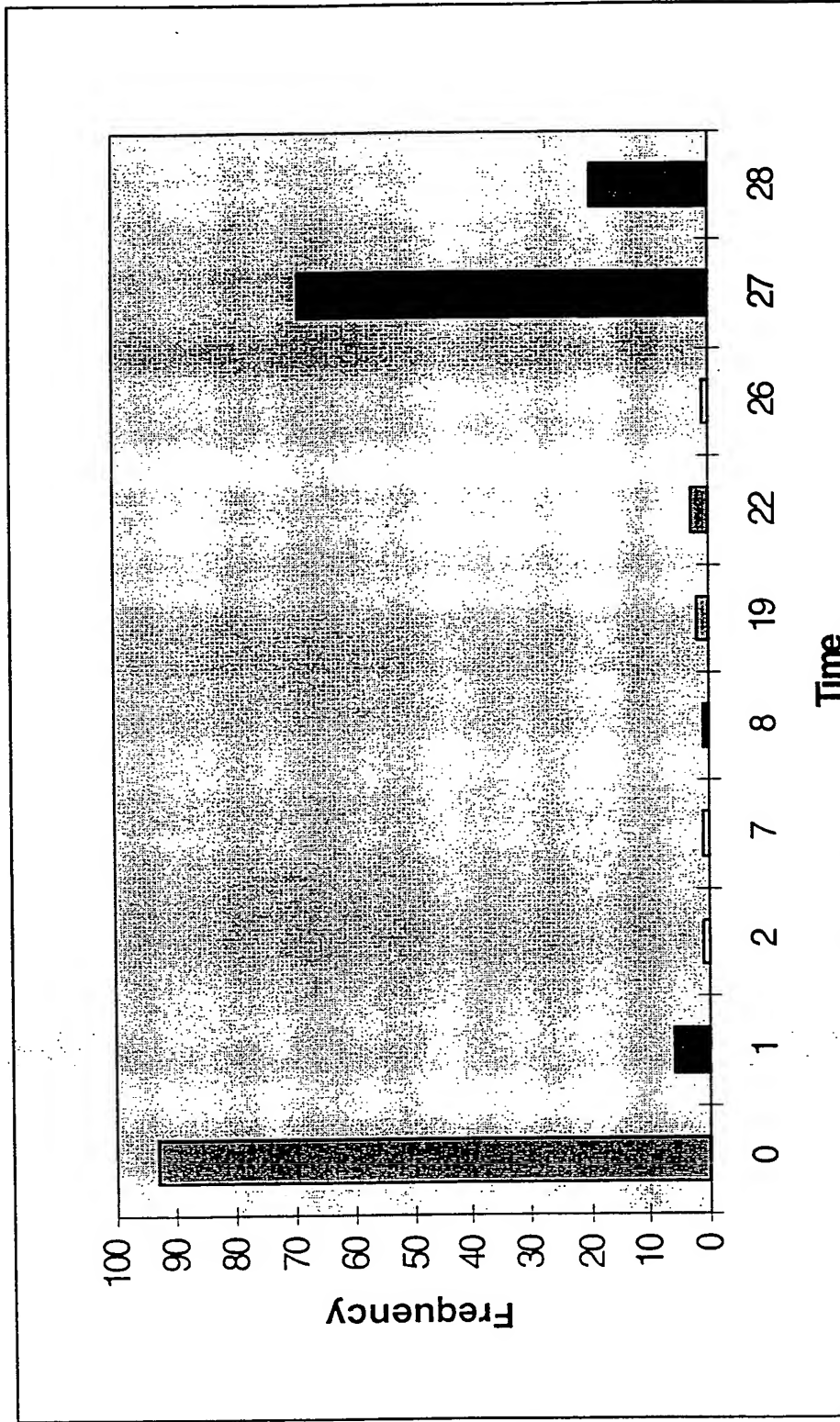


FIG. 1

Video Summarization



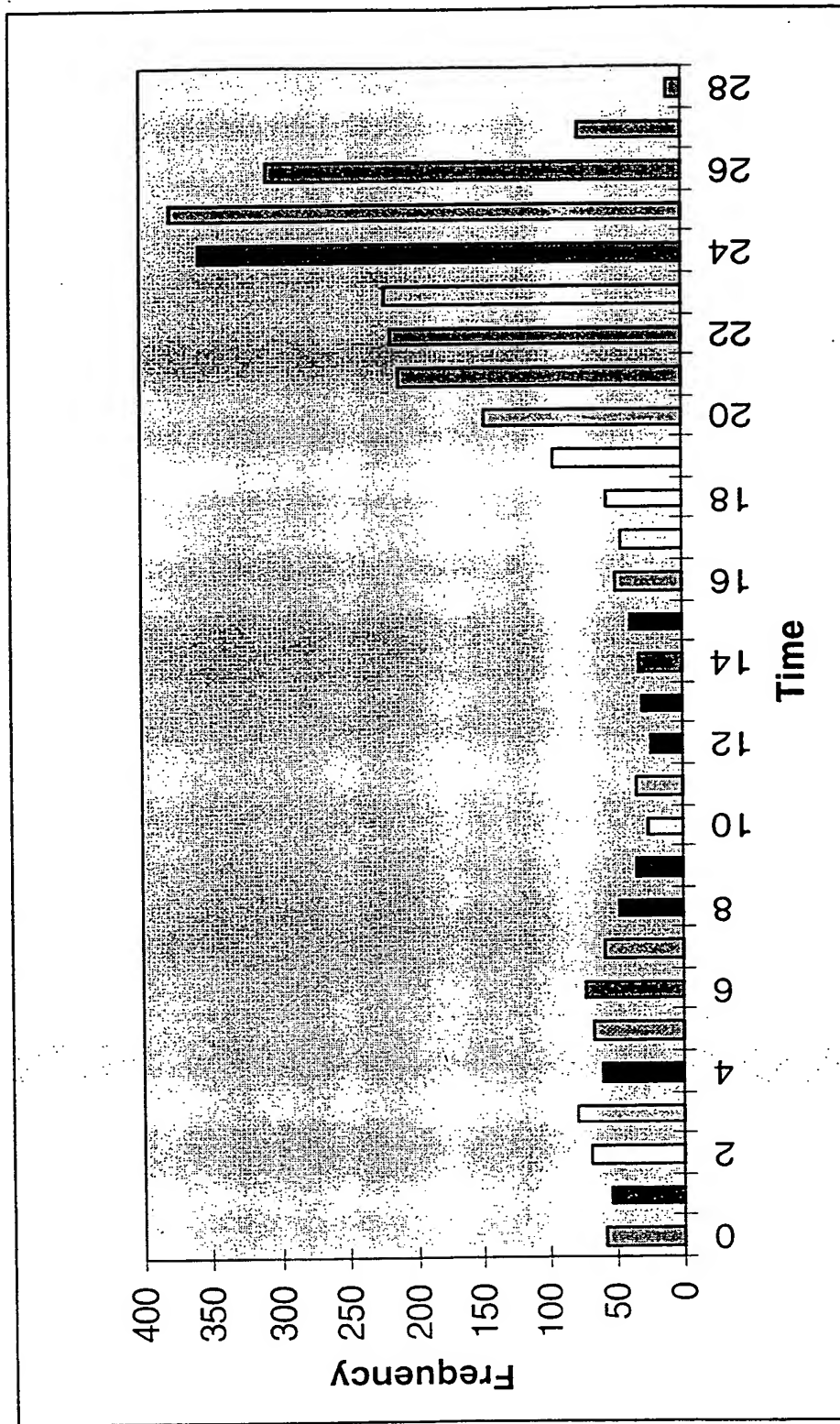
Phrase Frequency -- "I'M" <Person>



Uses Phrase "I'm" and Alembic's detection of a <Person>

FIG. 3

Weather Term Frequency

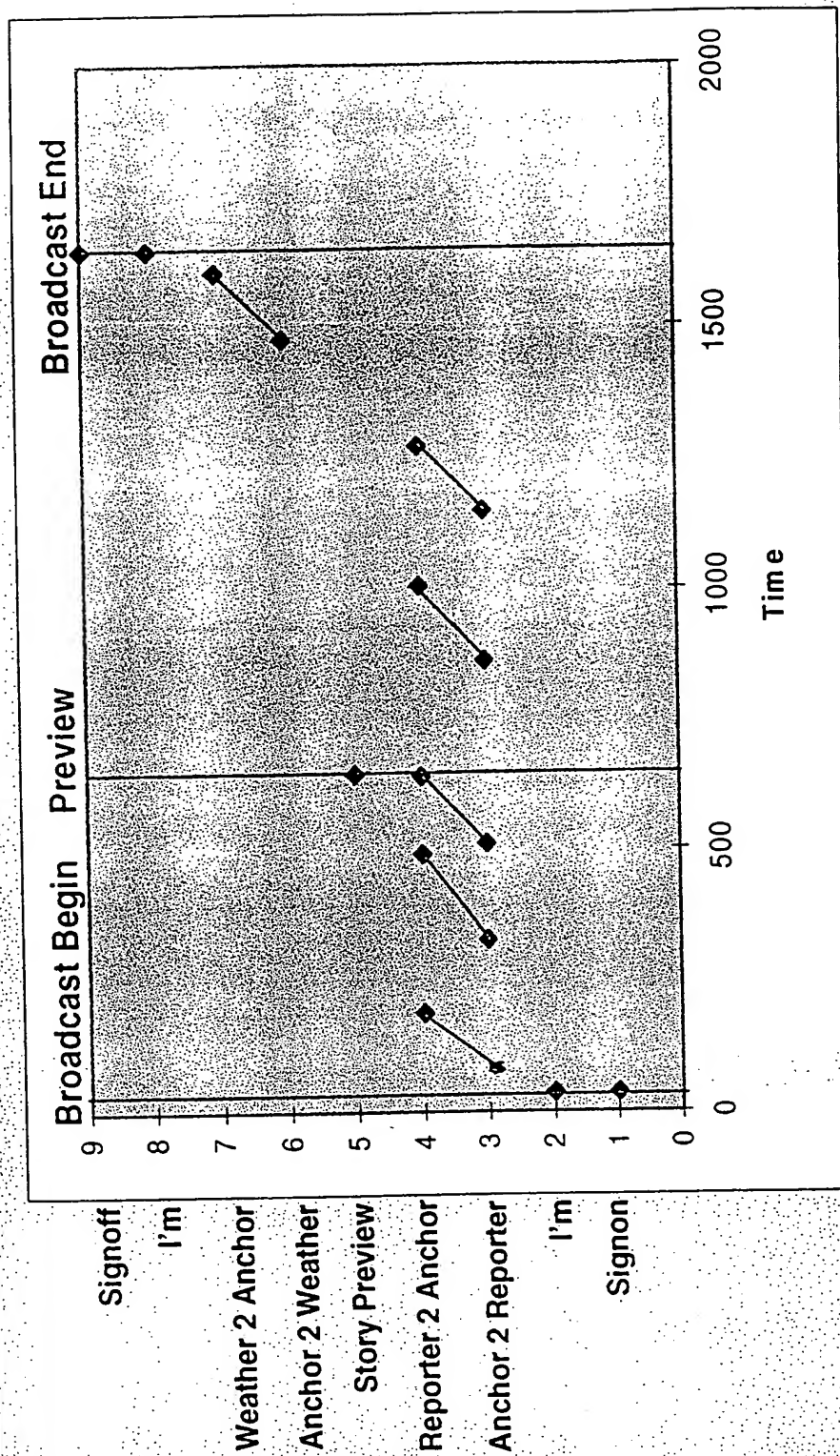


Most CNN Prime News weather forecasts start after 18 minutes.

FIG. 4

BNA Textual Tokens

Docket/App No.: 2471.1001-002
 Title: Automated Segmentation and Inform...
 Inventors: Mark T. Maybury, *et al.*



No Anchor Replacements

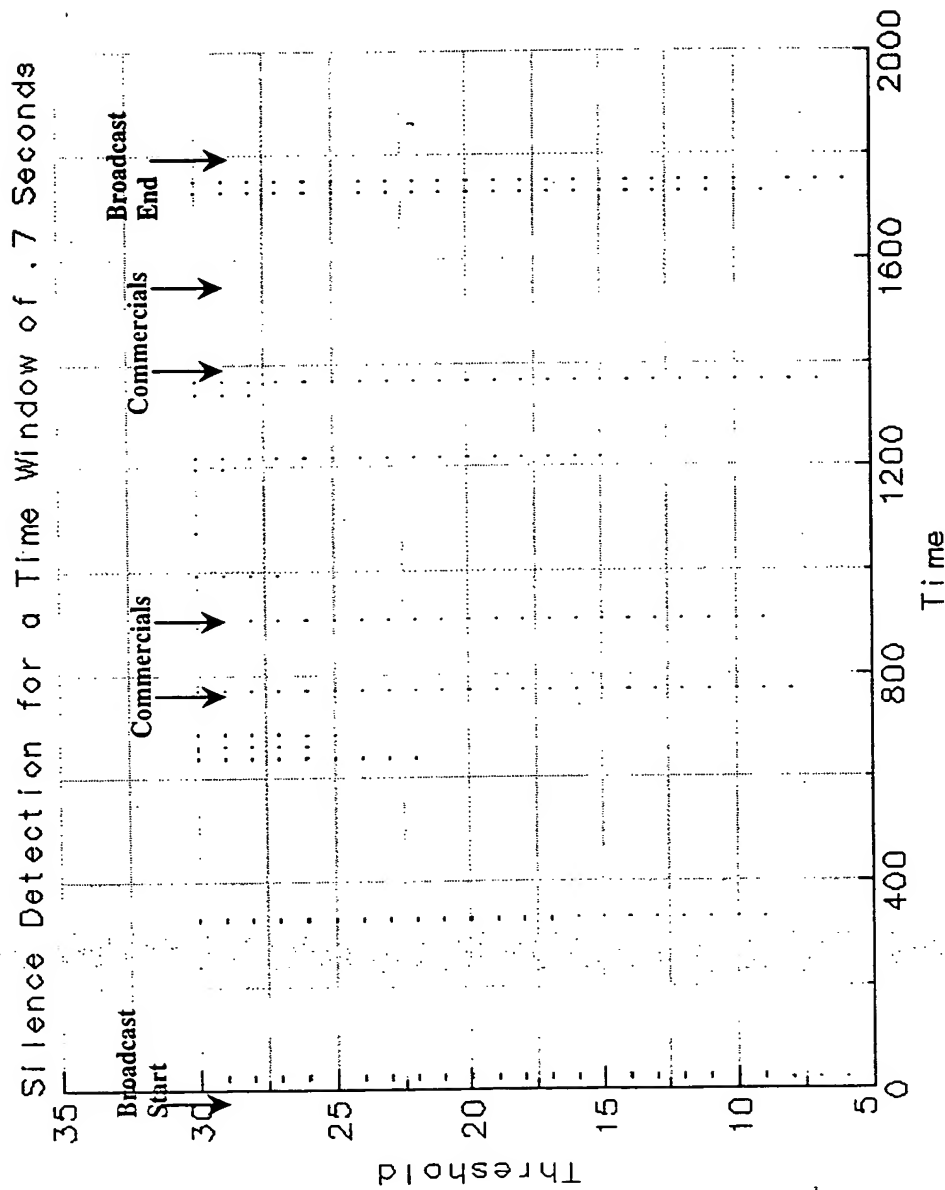
Truth

Automatic Detection

CNN Prime 2/25/97

FIG. 5

Silence Detection



CNN Prime News 12/23/96

FIG. 6

Scene Classification

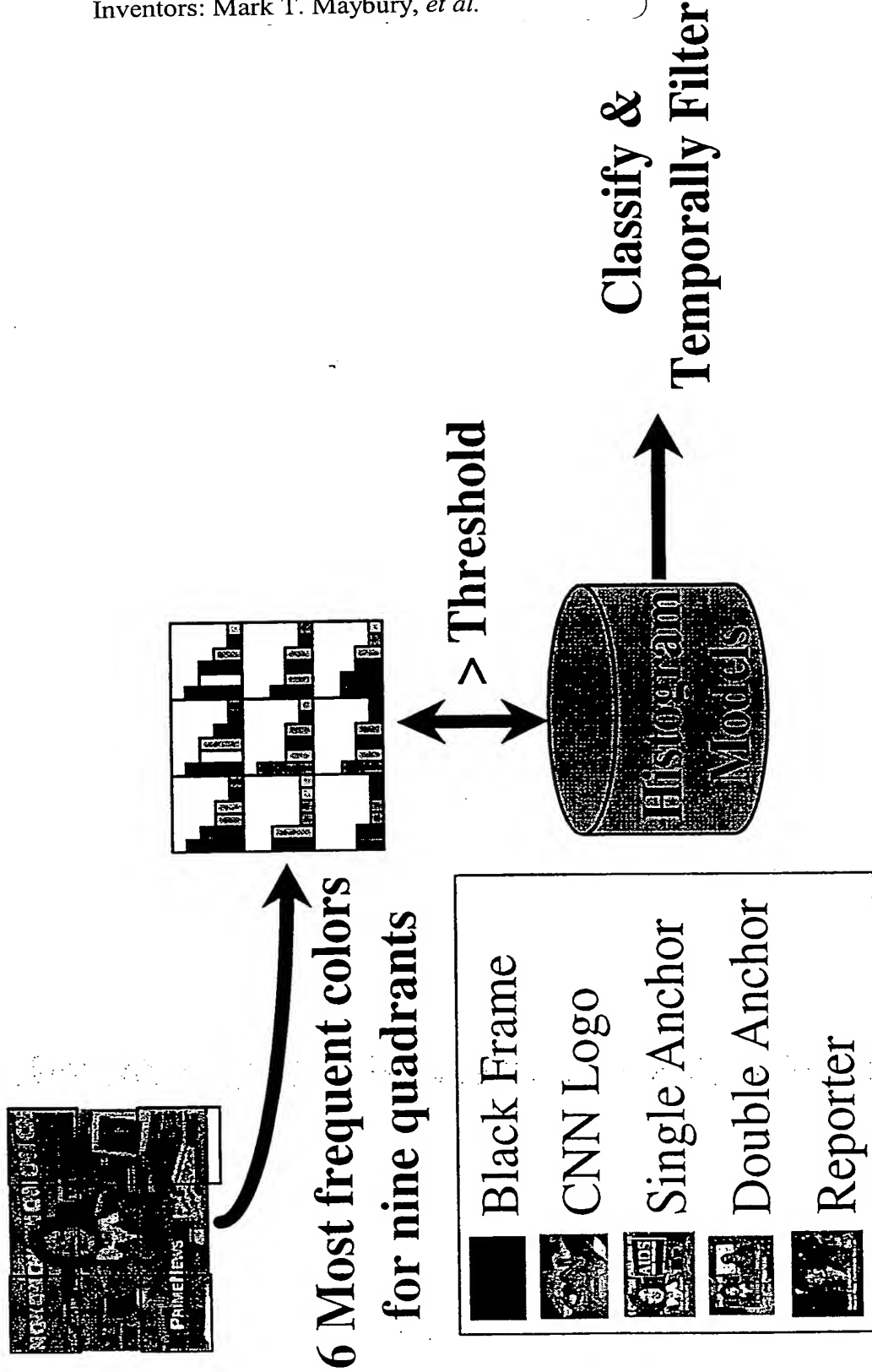


FIG. 7

CNN Graphical Vocabulary

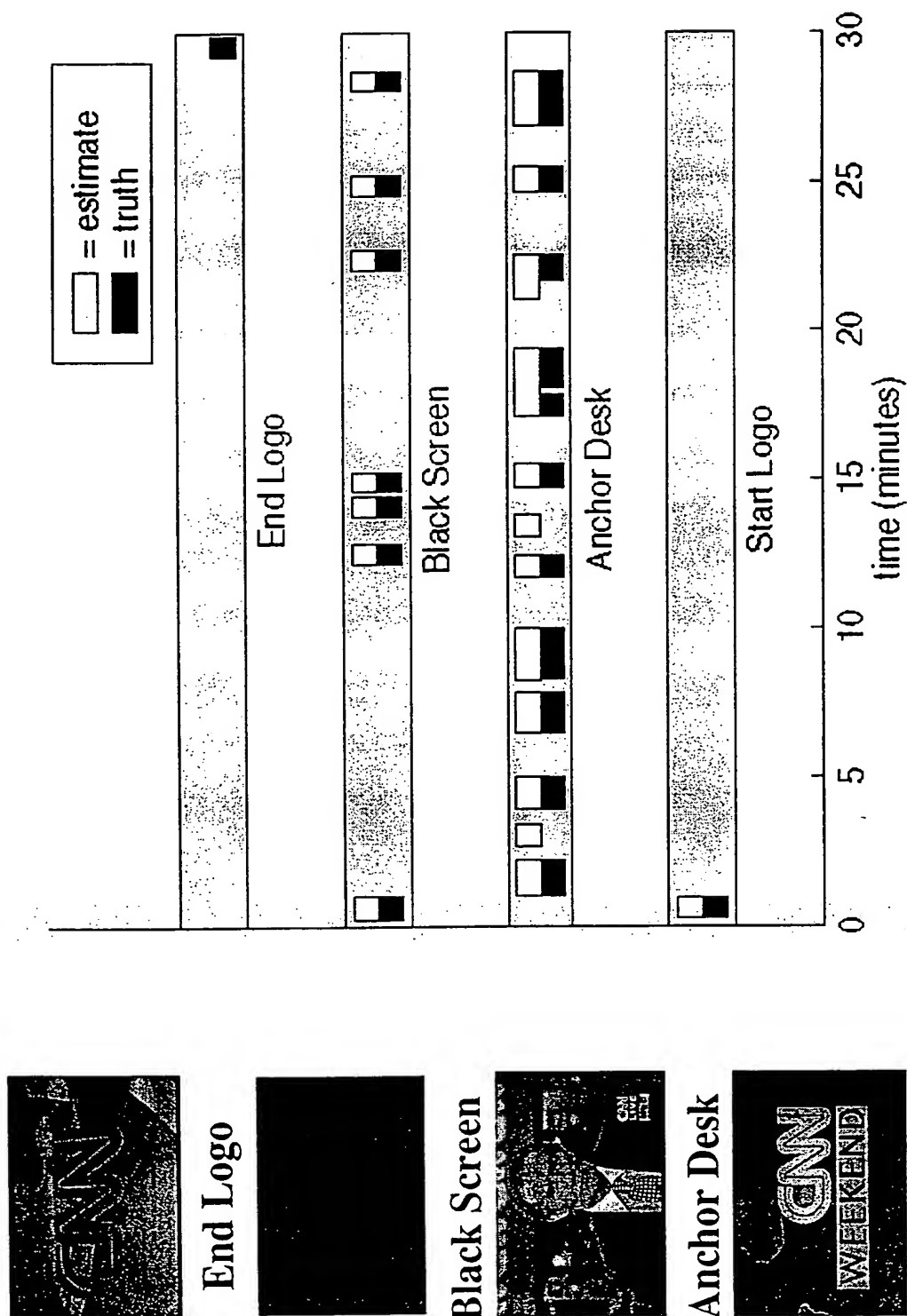


FIG. 8

BNA: Cue Correlation for CNN Prime News 3/24/97

Docket/App No.: 2471.1001-002
Title: Automated Segmentation and Inform...
Inventors: Mark T. Maybury, *et al.*

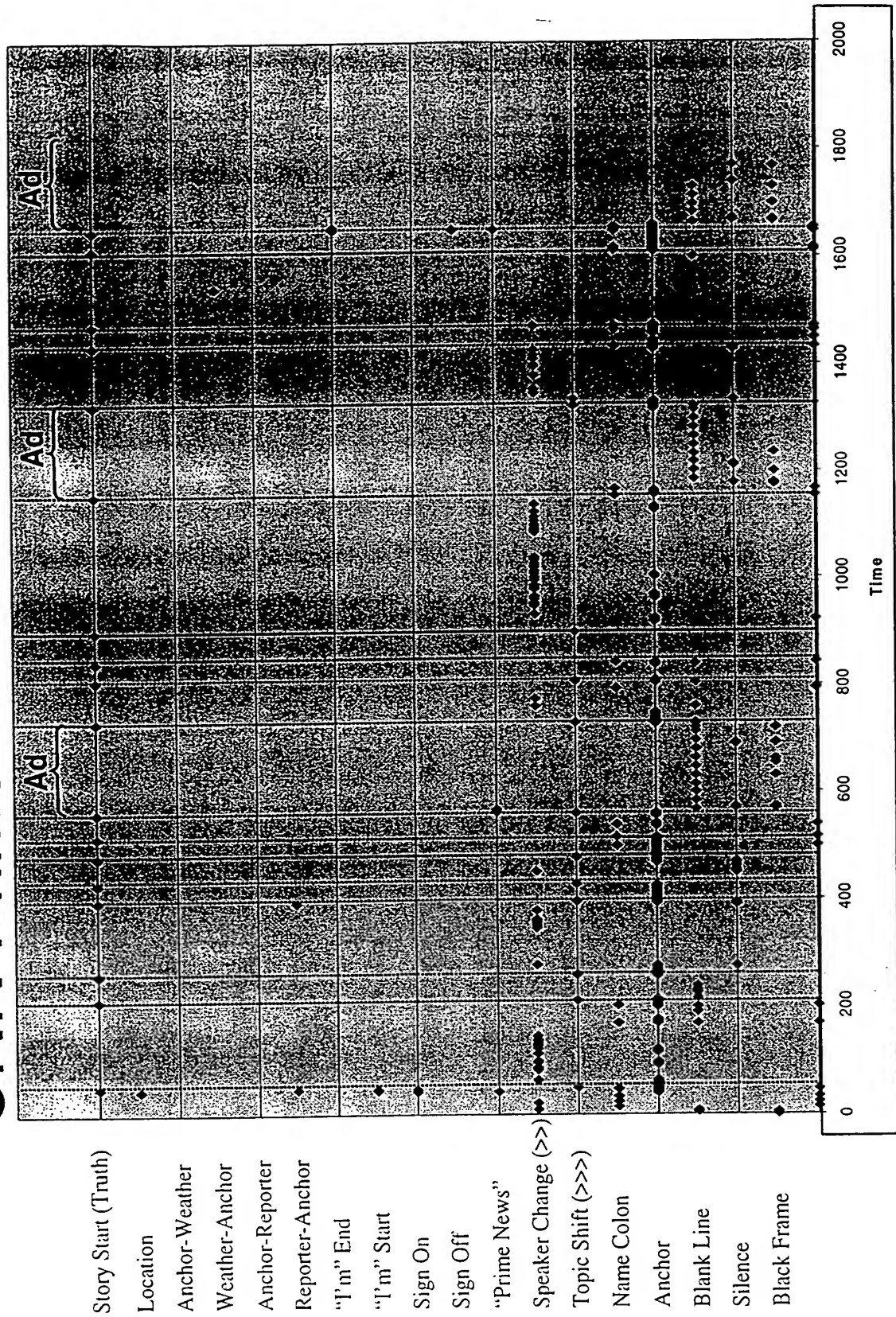
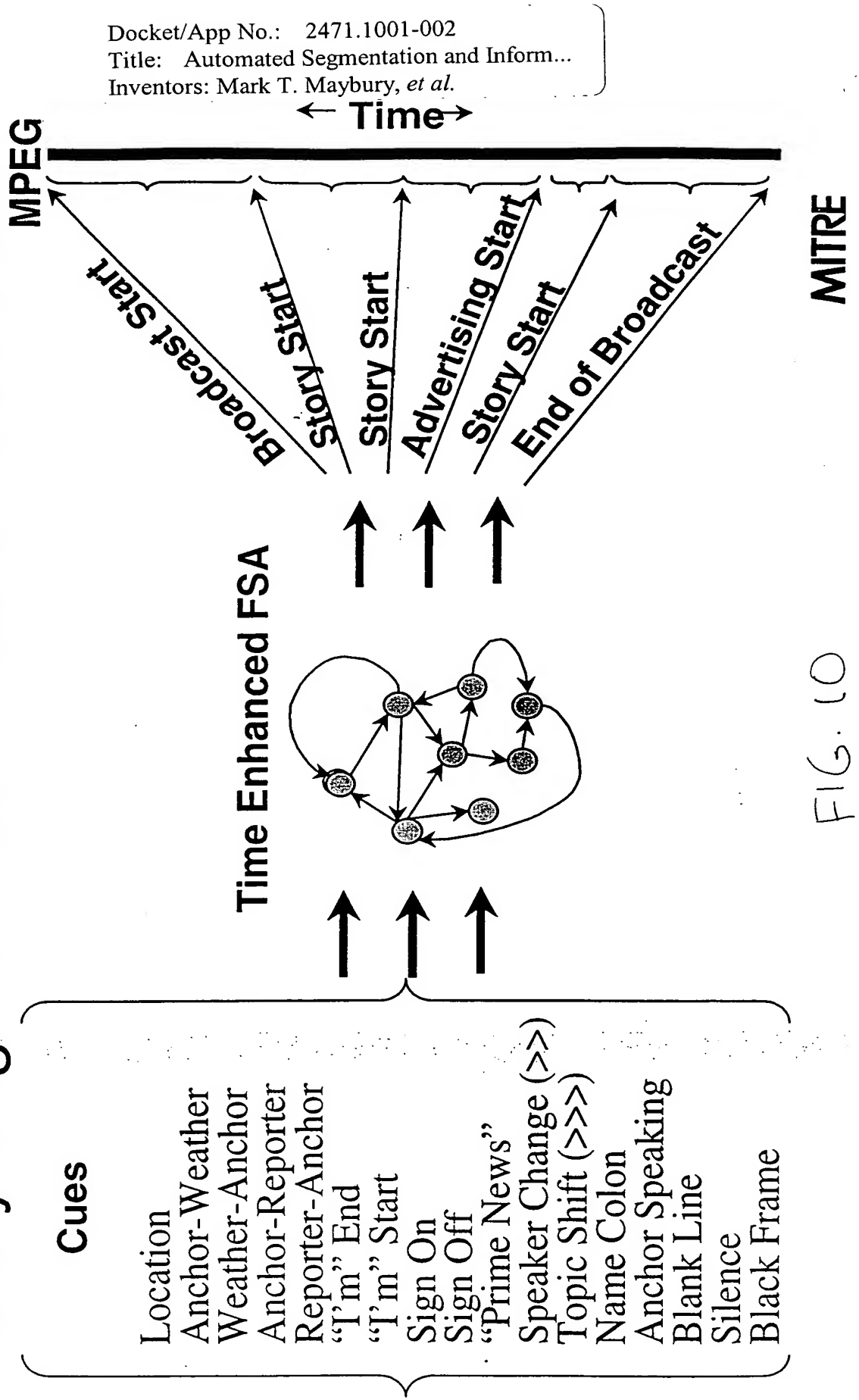


FIG. 9

Broadcast News Analysis:

Story Segment Identification Overview



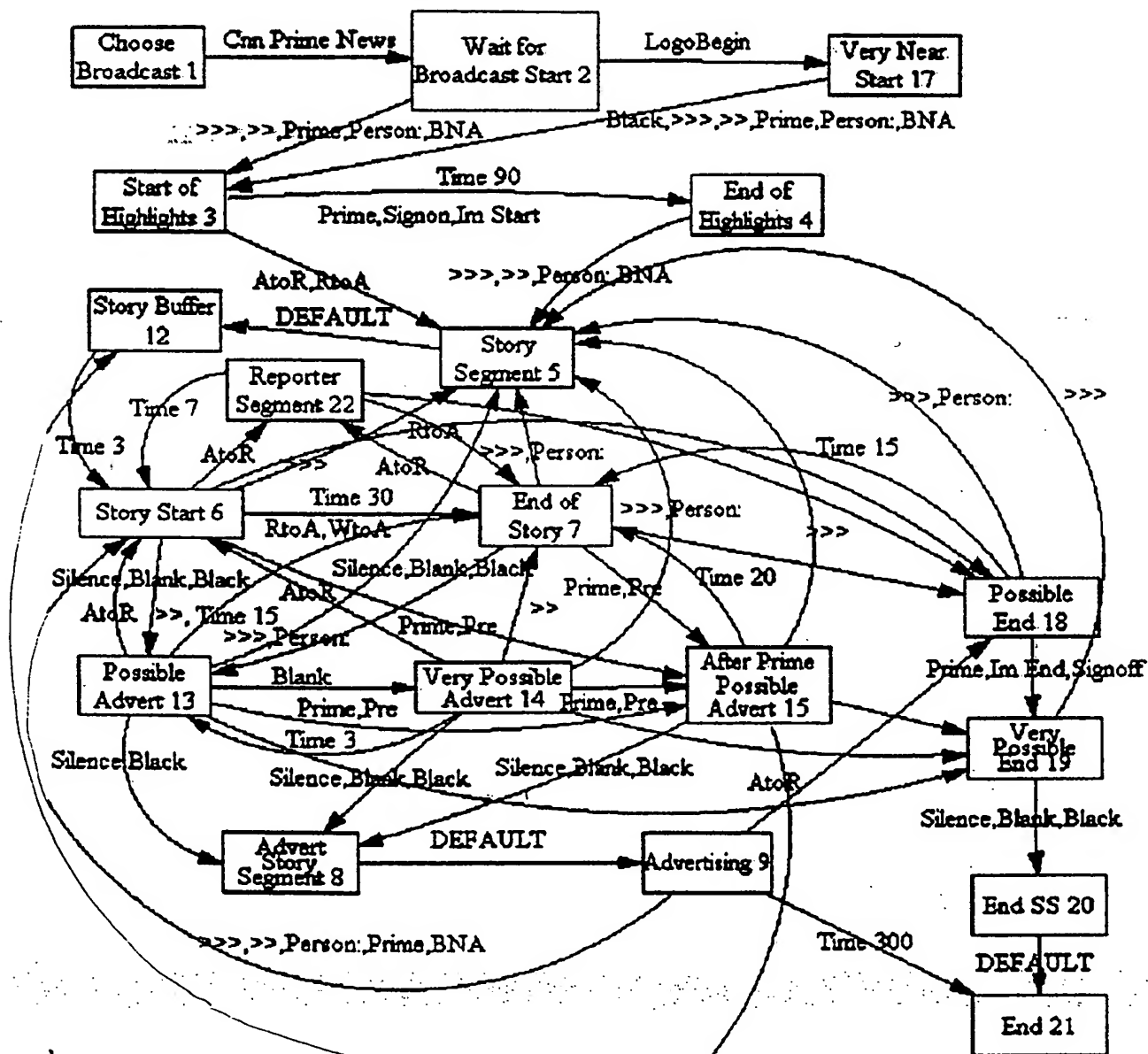


FIG. 11

State_ID Description

- 1 Start
- 2 Wait for Broadcast Start
- 3 Highlights Begin
- 4 Highlights are ending
- 5 Story Segment Detected
- 6 Start of Story
- 7 Near end of Story
- 8 Advert Story Segment
- 9 Wait for Advert End
- 10 Broadcast End Story Segment
- 11 Broadcast Over
- 12 Story Buffer
- 13 Possible Advertisement
- 14 Very Possible Advertisement
- 15 Prime Possible Advertisement
- 16 Prime Highlight
- 17 Very Near Start
- 18 Possible end of Broadcast
- 19 Very Possible End
- 20 End Story Segment
- 21 End Broadcast
- 22 Reporter Segment

FIG. 12

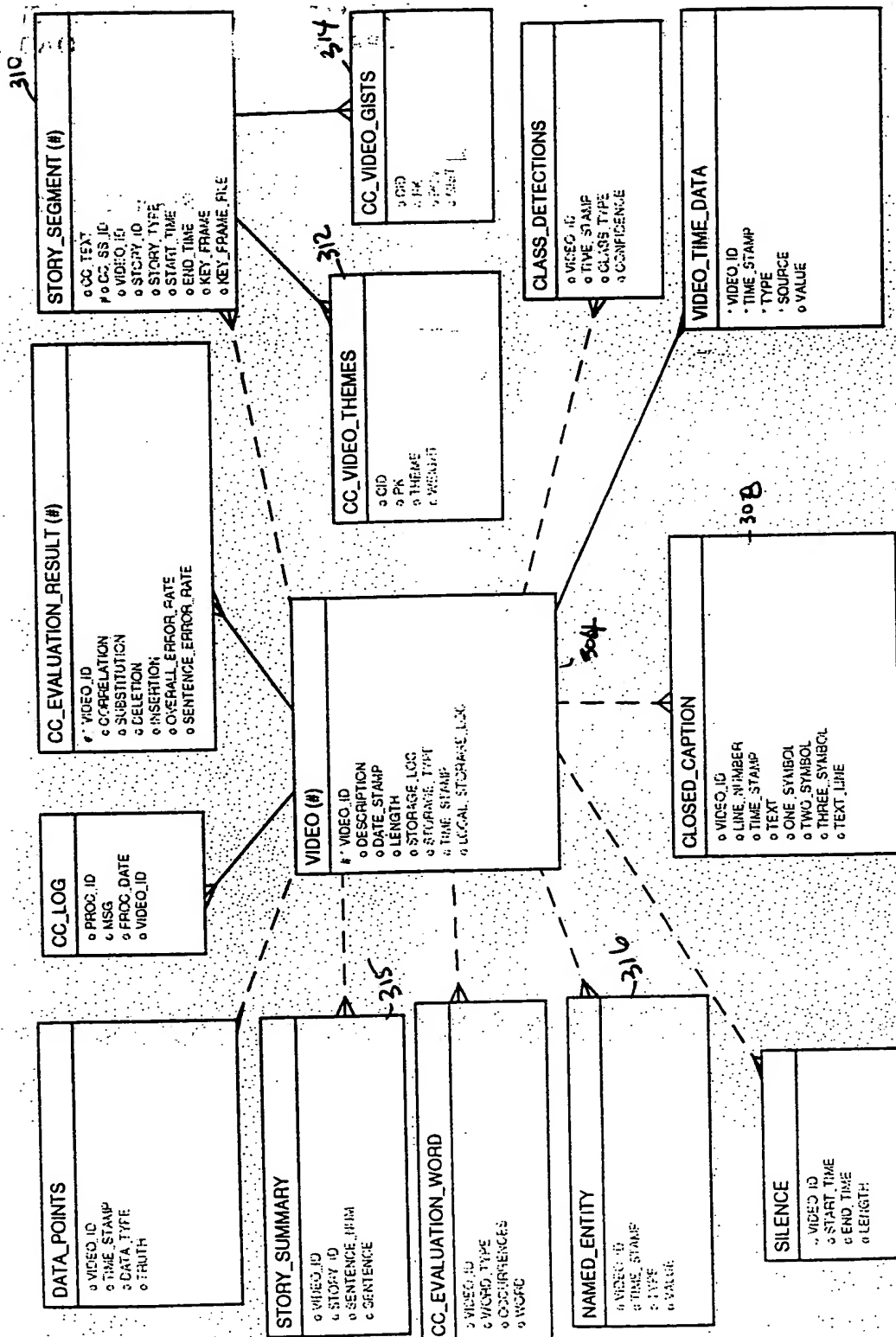


FIG. 13

Visualizing the News

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Title: Automated Segmentation and Inform...
Inventors: Mark T. Maybury, *et al.*

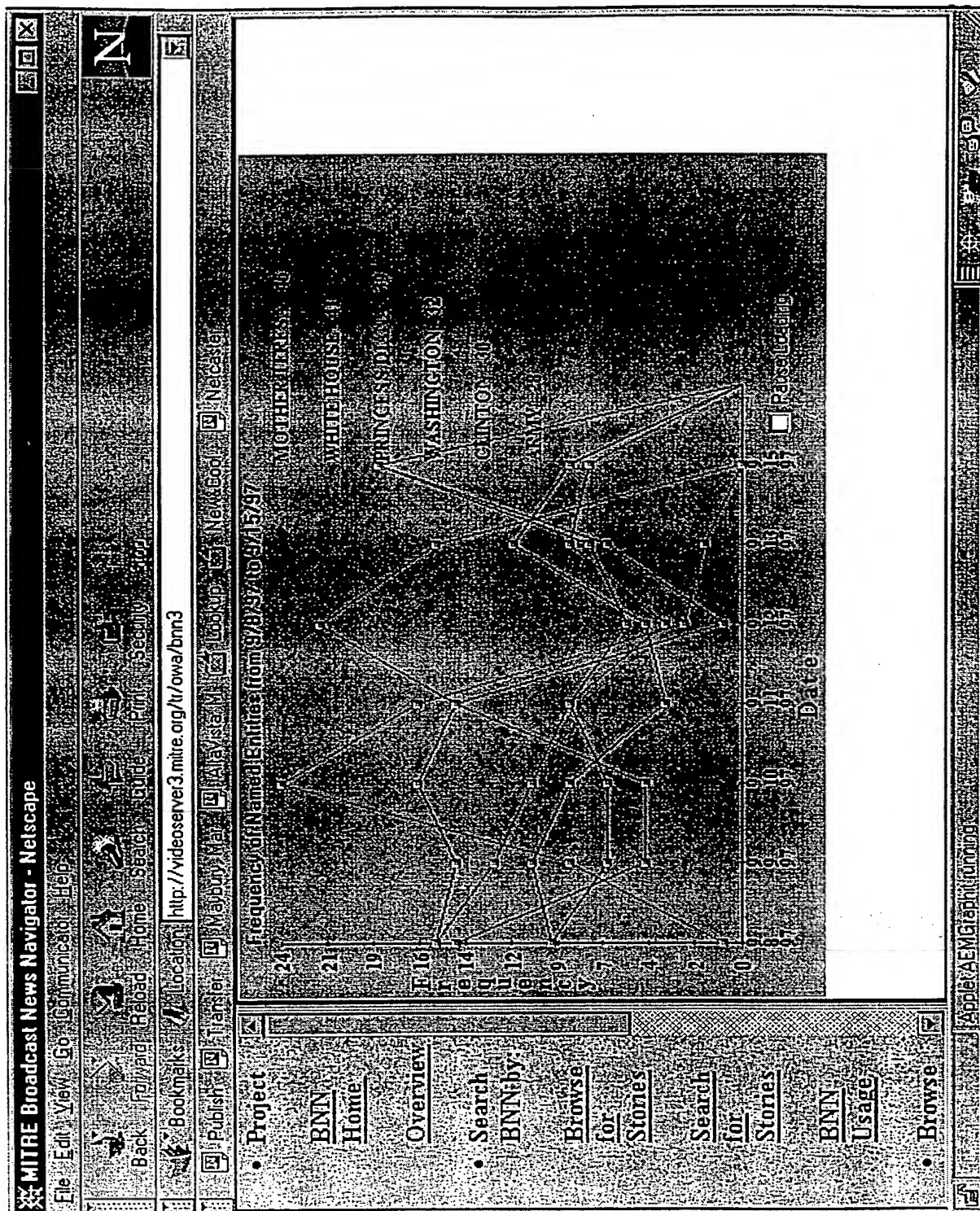


FIG. 14

Broadcast News Navigator Query Screen

Broadcast News Navigator Story Search

Select the type of News Source, the broadcast time, and the type of search you are interested in searching.

News Source		Broadcast Date	
<input type="checkbox"/> 60 Minutes <input type="checkbox"/> ABC News Nightline <input type="checkbox"/> ABC World News <input type="checkbox"/> Andy's Story Segmentation Evaluation <input type="checkbox"/> CBS Evening News <input type="checkbox"/> CNN Early Prime <input type="checkbox"/> CNN Headline News <input type="checkbox"/> CNN International	<input type="checkbox"/> From Date: 01 JAN 1996 <input type="checkbox"/> To Date: 01 JAN 1996		

☐ Last 24 hrs
☐ Last 3 days [From 24 SEP 1997]
☐ Last Week [From 20 SEP 1997]
☐ Last 2 Weeks [From 17 SEP 1997]
☐ Last Month [From 20 SEP 1997]
☐ Last 3 Months [From 20 JUL 1997]
☐ Last 6 Months [From 20 APR 1997]
☐ Last Year [From 20 SEP 1996]

☒ Text Search
☐ Topic Search
☐ Person Search
☐ Organization Search
☐ Location Search

FIG. 15

BNN Browse

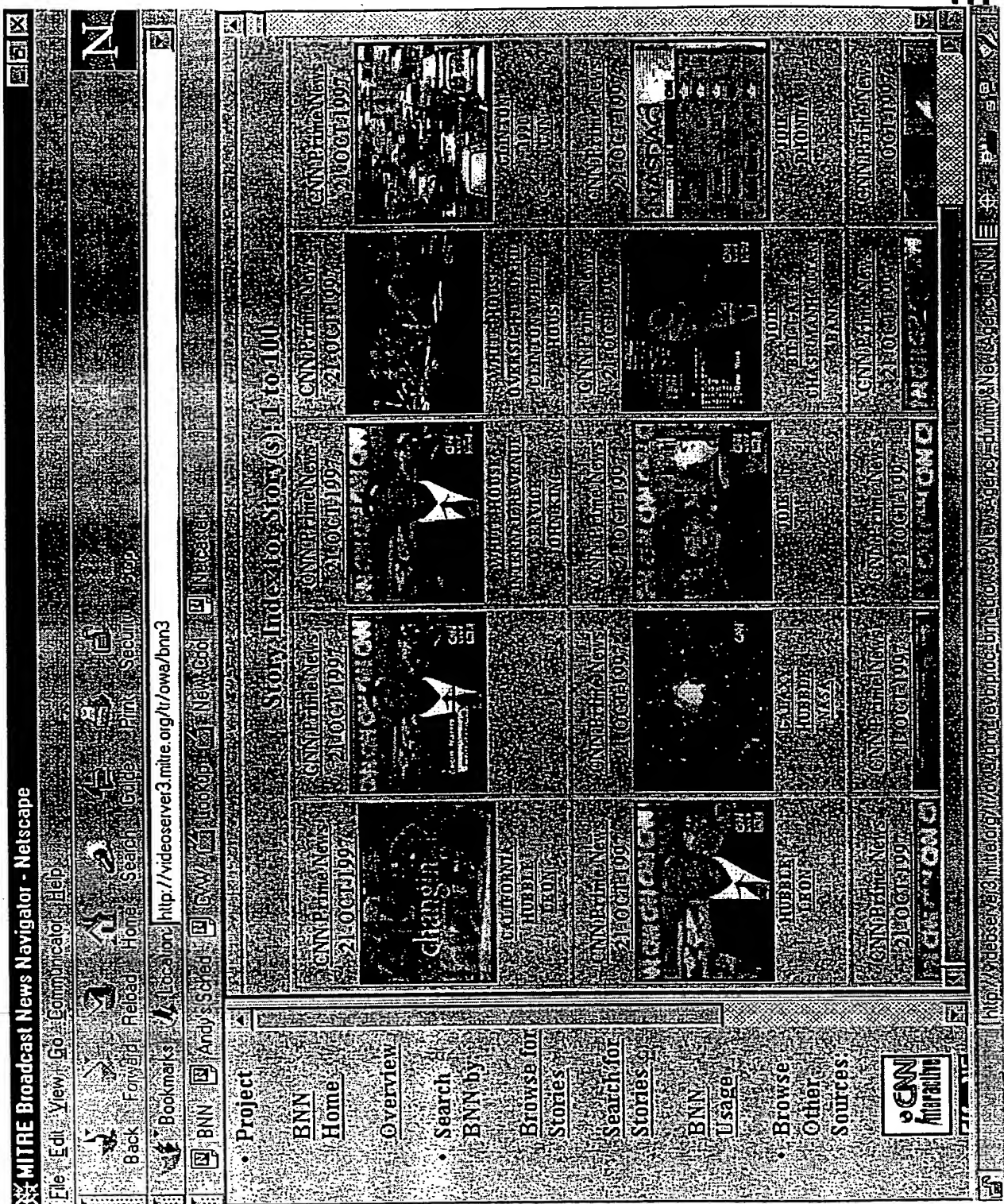


FIG. 16

BNN Browsing: "Pentagon"

Docket/App No.: 2471.1001-002
Title: Automated Segmentation and Inform...
Inventors: Mark T. Maybury, *et al.*

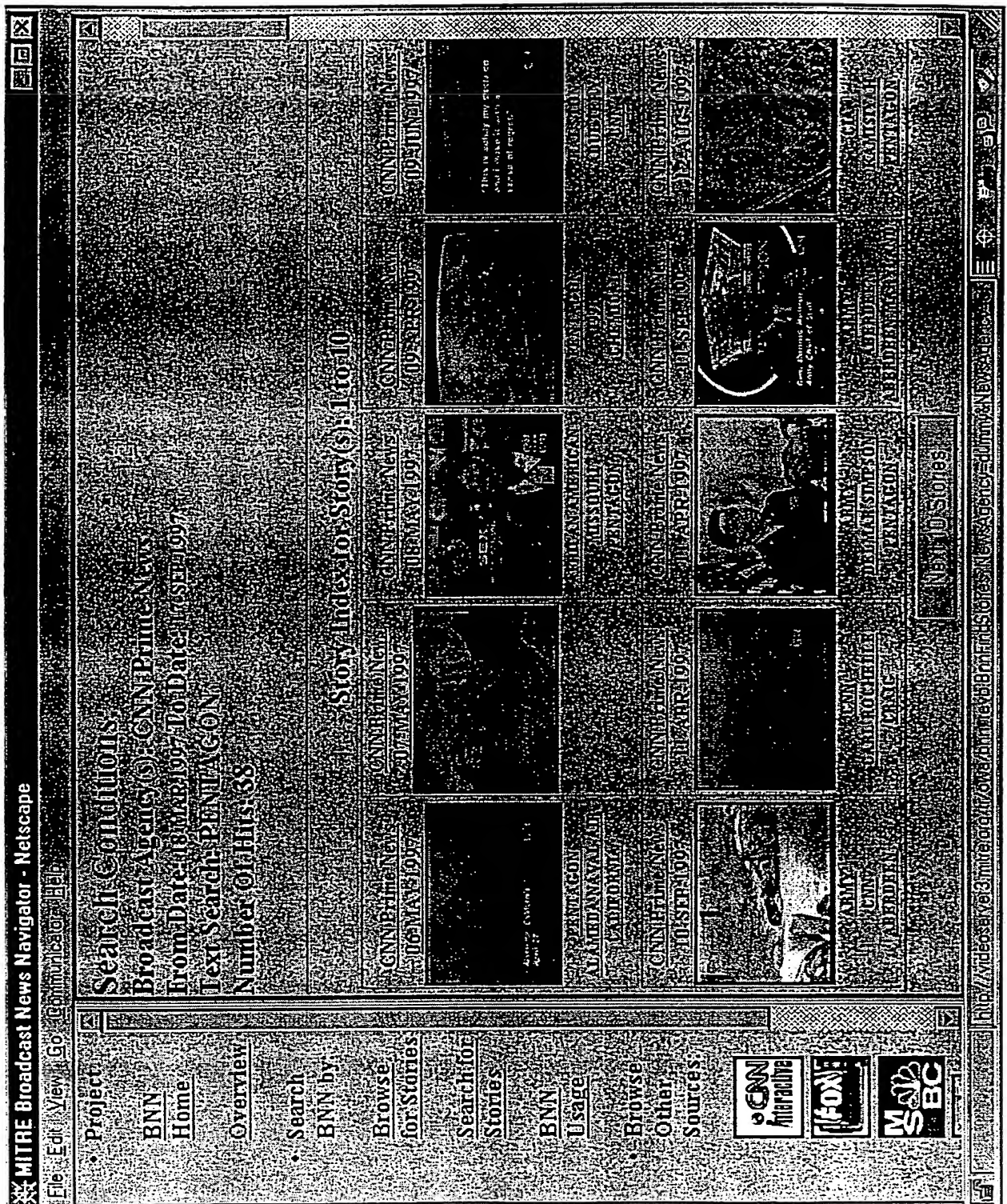


FIG. 17

Web-user Identifies Time Period and Story Topic of Interest

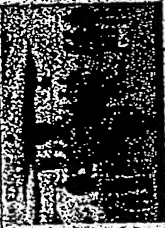
Docket/App No.: 2471.1001-002
Title: Automated Segmentation and Inform...
Inventors: Mark T. Maybury, *et al.*


Broadcast News Navigator			
Tag Frequencies for the Last 7 Days			
Occurrences	Type	Value	
86	ORGANIZATION	GNN	
58	LOCATION	SEMPSON	
45	PERSON	LINDEN	
42	PERSON	NATANE	
31	PERSON	CLINTON	
26	PERSON	QUEEN	
25	PERSON	TEANIE	
15	LOCATION	WASHINGTON	
14	ORGANIZATION	WHITEHOUSE	
14	PERSON	NICOLEBROWN SIMPSON	


User
Selects


FIG. 18


Search Conditions
Location: ZAIRE
From Date: 03/22/97
To Date: 03/29/97


Key Frame → 


Source → 

Closed Caption → 

Video → 

6 Most Frequent Tags → 

Related Web Sites → 

Summary → 

Key Frame		Program Information	
03/23/97	CNN Prime News		
Story Length 00:00:39	Number Hits: 4		

Tags	
LOCATION	DATE
LOCATION	LOCATION
PERSON	PERSON

Summary: ARE IN BRAZZAVILLE CONGO READY TO FLEE? ACQUAITE AMERICANS FROM NEIGHBORING ZAIRE SHOULD THAT BECOME NECESSARY.

FIG. 19

Viewing the Video

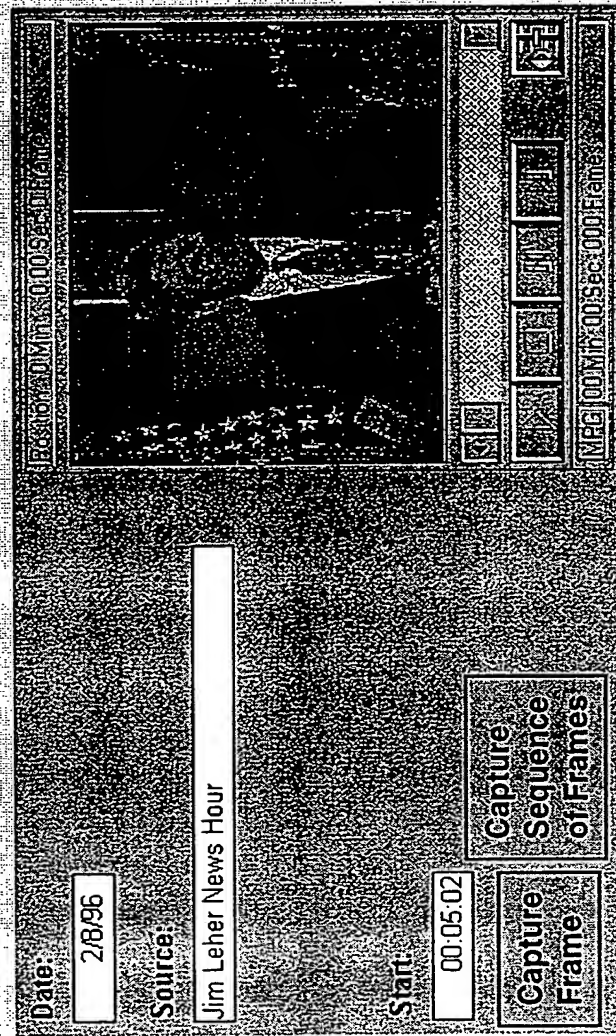


FIG. 20

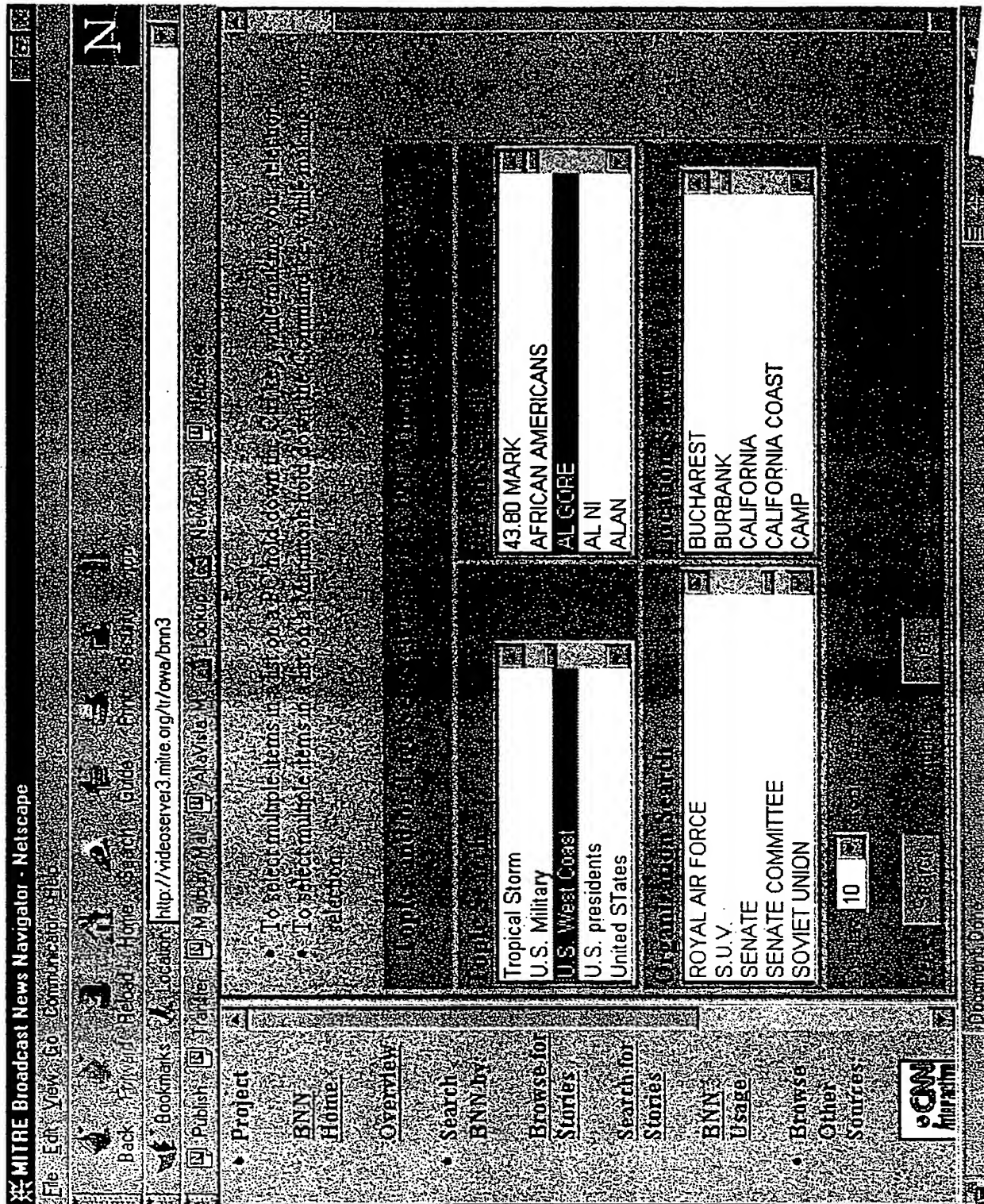


FIG. 21

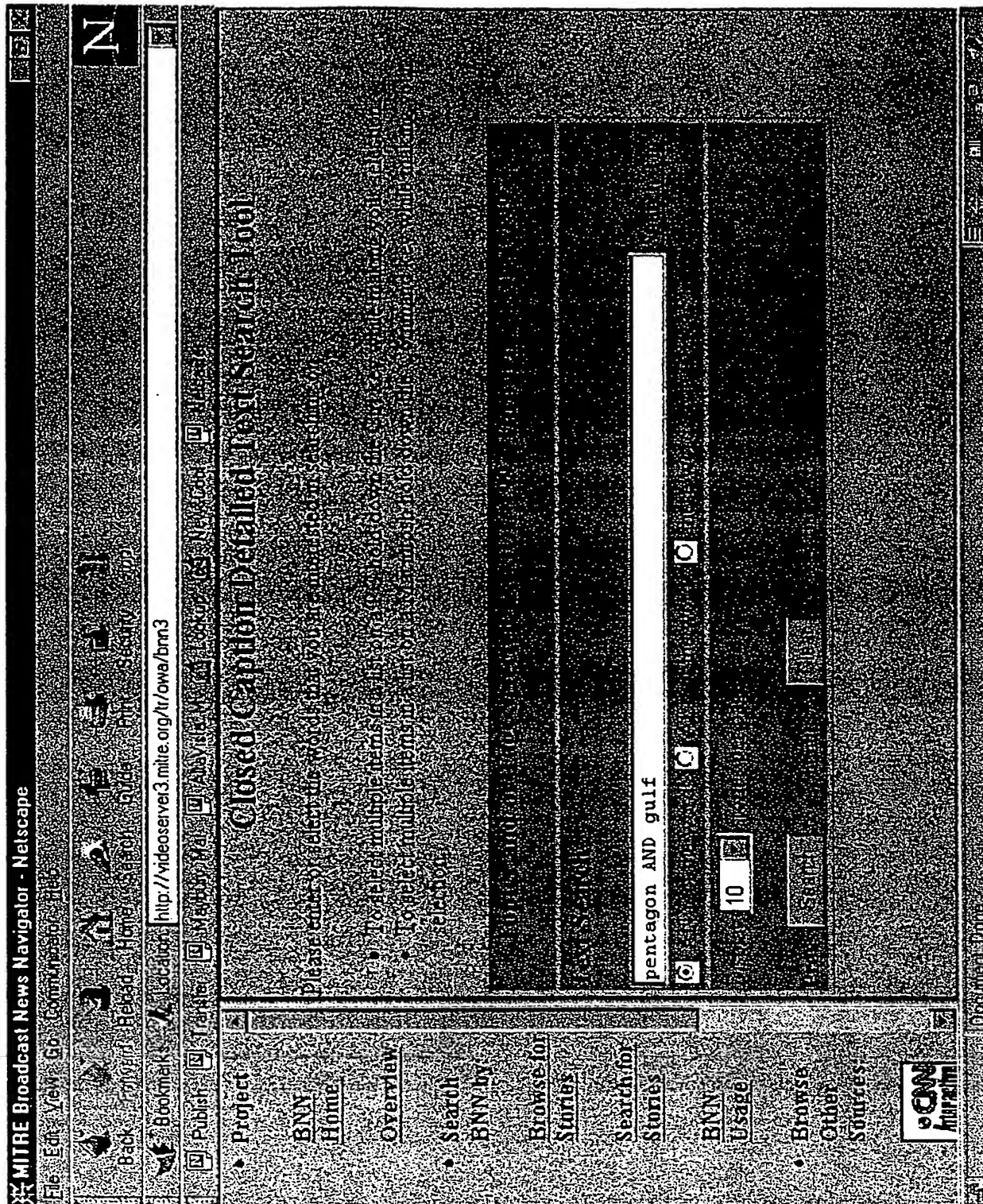


FIG. 22